



ISP Setup and Administration using MikroTik

Course Description:

This training course will provide you with the skills to configure a MikroTik Router OS Router board as a dedicated router, a bandwidth manager, a secure firewall appliance, a simple wireless access point, a VPN Server or Client or an Internet Hotspot concentrator etc. It is a course that covers the basics for those that new to MikroTik Router OS (or is struggling to understand it!) and concentrates on the basics of setting up a MikroTik device.

Course Objectives:

After successfully completing the course attendees will be able to installing and upgrading the Router OS, first login to the Router OS using Router BOARD, creating a simple network, static IP addressing and routing, basic dynamic routing using OSPF, creating a DHCP server and client, firewall filters and NAT rules, various VPN Tunnel types, simple queues for bandwidth control, hotspot configuration, wireless networks, web proxy for URL Filtering control and caching and The Dude.

Who Should Attend?

This course is aimed at network administrators, integrators, managers, IT consultants and other technical users who already use or would like to start using Mikrotik Router OS for their routing, firewall, hotspot and wireless projects. It is also a good introduction to routing and firewall systems, especially in a wireless environment.

Course Prerequisite:

Basic knowledge of TCP/IP and routing. We will be expanding on this during the course, but we suggest that the participants have a good working knowledge of IP addressing and routing. Basic knowledge of wired and wireless networking.

Duration:

36 Hours

Course Content:

<p>Lesson 01: MikroTik Installation, License and package up gradation</p> <ul style="list-style-type: none"> • PC and Router Based Mikrotik IOS Install • License • Version upgrade, version downgrade • New package install <p>Lesson 02: IP Access and NAT</p> <ul style="list-style-type: none"> • WAN IP • Networking Foundation. • WAN IP 	<p>Lesson 08: PPPoE Server Configuration</p> <ul style="list-style-type: none"> • PPPoE Server • Profile, User, Windows dialer <p>Lesson 09: Routing</p> <ul style="list-style-type: none"> • Static/ Specific routing • OSPF • OSPF (Route Tuning) • BGP (NON Transitive) • BGP (Transitive) <p>Lesson 10: Firewall and LOG Generate</p>
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<ul style="list-style-type: none"> • Subnet • Gateway, DNS add • Private IP NAT • Winbox Introduction. • IP Addressing Study. <p>Lesson 03: Bandwidth Manage</p> <ul style="list-style-type: none"> • Simple Queues • HTB/CBQ. • PCQ Based Queues • Bandwidth Control: Day night package, • Dedicate • Shared Control • Burst Limit <p>Lesson 04: IP Restriction, DHCP Server, User Management and MRTG</p> <ul style="list-style-type: none"> • MAC restrict on IP • MRTG create • Administrative User restrictions • Security • Read Only User • DHCP Server Configure • MAC restrict • Bandwidth Control <p>Lesson 05: Proxy Configuration</p> <ul style="list-style-type: none"> • Web proxy • Parent Proxy • Web site Filter • Virus Port Block • Idle IP block • IP lock / open <p>Lesson 06: Tools Introduction, Monitoring and E-mail Back up-Restore</p> <ul style="list-style-type: none"> • Backup create and restore • Graph management • Watchdog • Bandwidth Test Tool • Advanced Traffic Generator • Health and Resource Monitoring • Scripting • Scheduler <p>Lesson 07: Bridge, NTP, VLAN</p> <ul style="list-style-type: none"> • Bridge mode configure • NTP Client (Time Server IP) Configure • VLAN Configure • Bonding • VRRP 	<ul style="list-style-type: none"> • Client's browsing history (log) view and store in Another OS. • Basic Firewall • Port monitoring • Advance Firewall • Mangle • packet marking • High Bandwidth on certain host/IP • No bandwidth control on ping. <p>Lesson 11: VPN Configuration</p> <ul style="list-style-type: none"> • VPN Server • VPN client • IP Security (IPsec) <ul style="list-style-type: none"> ○ Ethernet Over IP (EOIP) ○ GRE Tunnel ○ IPsec Tunnel • PPP Tunnels <ul style="list-style-type: none"> ○ PPP Tunnel ○ PPPoE Tunnel ○ PPTP ○ L2TP ○ Open VPN • VPN windows dialer to connect any PC with private IP of head office. <p>Lesson 12: Link Redundancy Solution</p> <ul style="list-style-type: none"> • Link Redundancy with fail over. • Load Balance with STP. • Load Balance with OSPF. • Load Balance other mechanism. • Bandwidth merge of different link <p>Lesson 13: Hotspot Solution</p> <ul style="list-style-type: none"> • Hotspot solution • Prepaid Card Pin generate for different speed and different validity <p>Lesson 14: Wireless, Fiber, Radio Link Configuration</p> <ul style="list-style-type: none"> • Wireless access point • Radio Link P2P or Multi-Point • Optical Fiber Connectivity etc
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